

THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXXVIII.

THURSDAY, JANUARY 30, 1873.

No. 5.

Original Communications.

TUMOR AFFECTING NERVES OF SEVENTH PAIR AND CEREBELLUM
UPON LEFT SIDE.

[Read before the Boston Society for Medical Observation.]

By R. T. EDES, M.D. Harv.

Mr. W., æt. 45, and previously in good health, was in a railroad car which was capsized in September, 1864. He was somewhat bruised about his head and eyes. Soon after, was pretty hard worked in his business. In the autumn of 1865, he began to complain of pain in his eyes and to appear fatigued. In February, 1866, complained of dimness of sight, thought lights were poor, &c.

At this time he consulted Dr. H. Derby, who has kindly permitted me to make use of his notes:—

"Mr. W., æt. 45, came to see me March, 9th, 1866. He said nothing about any accident, but intimated that for six months or more he had experienced an occasional sharp pain, passing quickly from back of head into eyes. Of late, he thought he was growing a little deaf. Three or four weeks ago, began to notice that he needed more light to see a printed page, which at the best looked indistinct. This indistinctness gradually increased, and extended to all objects. For two weeks past much headache. General health good. Uses no tobacco and very little alcohol. Says his memory and reasoning powers seem as perfect as ever.

"Eyes externally normal. Vision of right, $\frac{2}{30}$; vision of left, $\frac{2}{30}$. Field of vision normal.

"I dilated the right pupil, and made a careful ophthalmoscopic examination. The optic nerve entrance was found swollen and bulging forwards, only to be recognized as the point of meeting of the vessels. These latter were enormously filled, broken, and in places obscured by the whity-gray cloudiness about site of papilla. Numerous retinal apoplexies in this region. Remainder of fundus normal.

"Diagnosis—cerebral disease, probably a tumor."

In the same month he was seen by Dr. Williams, who found an apoplectic retinitis, of the form indicating an interference with circulation in the retinal vessels, probably a tumor. An unfavorable

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prognosis was given to the family, which, as well as the diagnosis, was confirmed later in the summer, by Drs. Agnew and Noyes, of New York, who saw him with Dr. Williams.

First seen by me July 1st. He could then see somewhat with the left eye, and could distinguish the outline of a person's head against the light. The hearing was then a little dull.

An ophthalmoscopic examination showed the borders of the optic papilla in both eyes indistinct, and apparently covered with exudation, the vessels being partially covered by it in portions of their course. The retina showed various patches of hæmorrhage, mostly small; one large one was seen at a somewhat later period in the left eye (the best one).

In the latter part of July, he had, for several days, a pretty severe headache, which was relieved by purgation and hypodermic morphia. At this time it was mostly in the top of his head. Afterwards, he had similar attacks of greater or less severity, usually relieved by purgation, and also every day or two slight attacks of a few minutes' duration, referred more to the forehead and occiput. Appetite fair. Pulse, when examined by me, rather rapid, and at time of headaches intermitting. Friends who have examined at other times report about a normal frequency.

His sight almost completely disappeared during the autumn, though occasionally he seemed to see some dark object or a light. Has once or twice seen flashes of light.

He was seen by Dr. Brown-Séquard in the winter of 1866-67. He determined a slight degree of tactile anæsthesia as well as loss of motor power on left side, which led him to give a probable diagnosis of some affection, perhaps congestion with exudation, in the pons Varolii. I regret that I did not note his views in writing at the time. The family think that he located the lesion upon the left side. He advised iod. potass. grs. v. ter die, and tr. arnicæ gtt. v. ter die, also ice to the back of neck once a day. The patient not to be allowed to sleep more than eight hours out of twenty-four. The prognosis was unfavorable. This treatment seemed, so far as could be observed, without effect.

March 10, 1867.—Hearing has been gradually failing, and for the last month or two quite rapidly. At this date, distinct hearing is slight, though he hears noises and now and then makes out a few words. The family state that the left ear was entirely deaf in the spring of 1867. Tried double stethoscope and ear trumpets without avail. The sight is nil. Eyes rather prominent, pupils usually dilated, though sensitive to light. Appetite good; taste, as nearly as can be made out, not very acute. Mind apparently unaffected.

April 10.—Less headache lately, until within a day or two. Mind apparently normal. Takes an interest in all that is going on, so far as he can be informed about it by writing on his forehead.

May 9.—Hearing and sight none, though he thinks he hears his

watch tick occasionally. He used to hear various noises which were probably entirely subjective, though there were at times some singular coincidences.

About this time he ceased to be regularly under my care, and tried various clairvoyants, &c. I continued, however, when attending other members of the family, to hear about him frequently, and to see him occasionally.

In September, he was said to have been having attacks of fainting or weakness, apparently unattended with loss of consciousness. Is said to be somewhat paralyzed on one side.

Sept. 3.—I saw him with Dr. Ezra Palmer. He had a well-marked left facial paralysis. His left hand and foot said to be much weaker than right. Lately less inclined to talk.

Nov. 2.—It is difficult to get him out of bed. Walks much bent over to left side. Often refuses to communicate. Makes remarks of such a character as to cause friends to suppose he is losing his mind. Has taken a dislike to some members of his family. Appetite very good. Uses aperient medicine constantly. Has lost flesh. Says that he does not smell much, but taste is apparently good, as he is rather particular about his food. Has had some attacks of a not very clearly-defined character, consisting, apparently, of sudden loss of strength, but not loss of consciousness.

Dec. 2.—Has not been up for four weeks. Can understand what is communicated to him by writing on his hand or forehead, or with his own forefinger on some hard substance, until he gets tired, when he does not try to understand.

This condition continued through the winter, headache being noted in February and April. From May to July, he seemed to improve.

Nov. 9, 1868.—Sits up, and takes more interest in what is going on. Paralysis remains, but is supposed better.

April 23, 1869.—Personal examination. Left facial paralysis complete, or nearly so. Left side of forehead smooth. Mouth drawn far to right. Moves left upper lid a little, and wife thinks he can shut his eye. During the visit, however, he did not wink, but the eye rolled up under the lid at short intervals. Left eye more prominent. Pupil considerably, but not extremely, dilated, examination being in a light room. Speech distinct. Has only partial control of left hand. If he loses hold, it goes flying about in uncertainty. Wife thinks the grasp with that hand is less strong. Relative strength of legs not inquired about. When conversed with by writing on forehead, often guesses a word or phrase before it is completely spelt out. Writing may be upon forehead, hands or knees. Has recovered his natural, amiable disposition. Intelligence and memory good. Has contents of the daily paper explained to him. Shows great interest in, and liking for, people he has never been acquainted with, but only heard of. Appetite good. No emaciation.

Aug. 27, 1870.—Paralysis about the same. No paralysis of sen-

sation in face. Intelligence perfect, and memory really remarkable. Enjoys riding out. Has increased in weight.

1871.—No notes.

Dr. Spooner, of Hingham, who has kindly allowed me to make use of his notes, was called to see him on May 8th, 1872. His wife stated that he had not been so well as usual since the middle of winter. For past three or four months he has taken less interest in outside affairs, been disinclined to talk and somewhat irritable. For last few weeks, cough and dyspnoea. The physical signs showed some effusion into pericardium and right pleura, which improved under treatment. He became more cheerful and lively, and, on May 24th, rode out. Complains of weakness.

June 6th.—Patient has been to ride several times, sometimes several miles. Went to bed as well as usual last night. Soon after 12, P.M., his wife heard him speak, and then he sat up in bed and spoke again. There was a slight movement of the arms, but no convulsions. Did not speak again, and could not have breathed more than a minute.

Autopsy, 12, M., June 7th, thirty-six hours after death. Assisted by Drs. Webber, Nickerson and Spooner.

Rigor mortis moderate. Face drawn to right. Left eye prominent. Both eyes closed. Body well nourished, with large amount of fat. At the sagittal suture was a slight depression, which was perceptible both before and after removing scalp. The internal surface corresponded.

Arachnoid slightly opaque, chiefly in course of vessels. Consistency of cerebral substance normal. No appearance of congestion. Three-fourths of an ounce of serum in lateral ventricles; none over surface at vertex. The orbital plates arched up into cavity of cranium more than usual, thus leaving ethmoid plates at the bottom of a deep pit. The membranes, pia mater and arachnoid, with the brain substance, were adherent to ethmoid plates, so that cerebral substance could not be removed without some tearing. Olfactory roots translucent, without white color. Arteries at base generally very atheromatous.

Optic nerves very translucent (greyish), without the usual dead white color. This condition extended back to the corpora geniculata. A small part of the tracts was of a better color, but none healthy; and behind the corpora geniculata the translucent appearance was again marked.

Left side of cerebellum projected upward, and seemed larger than the right. A small tumor was seen behind the centre and apex of the petrous portion of temporal bone. This was about three-fourths of an inch in diameter. Behind it were several small cysts containing fluid, and the anterior part of left lobe of cerebellum was softened into a cavity, with no distinctly defined boundaries. The tumor had undergone fatty degeneration in the portions nearest the petrous. The

inner surface of petrous was implicated in the tumor and eroded, the cavities of the bone in the neighborhood of the carotid and internal auditory foramina being filled with fatty masses. The facial nerve ran above the surface of the tumor, being partly lost in it, acquiring a translucent appearance. The auditory could not for some time be distinguished, but at last was thought to be represented by a very translucent band *below* the tumor, at least half an inch from the facial. The glosso-pharyngeal and part of pneumogastric were torn off during examination.

The facial and auditory of the right side seemed normal. Other cranial nerves not notably affected, judging by gross appearances.

One quart of serum in right pleural cavity; a little in left. Lungs healthy, except thickening and puckering at left apex. Heart very large; walls of ventricle thick and firm. Heart adherent in one place to pericardium. Abdominal organs healthy.

Microscopic Examination.—The tumor resting upon the temporal bone was in some places a spindle-celled sarcoma, passing in others nearly into the condition of fibroma. There was a considerable amount of fatty degeneration. Some portions of the tumor were seen, upon section, to be exceedingly vascular. The softened walls of the cavity in the cerebellum consisted of vessels and brain tissue in a state of fatty degeneration.

The apices of the frontal lobes, where adherent to the ethmoid plates, contained fatty vessels, and, I think, fatty cells.

The right auditory nerve was noted as normal. The right facial is noted as a little fatty within the auditory foramen, but I doubt the correctness of this observation, as it was normal outside of the mastoid foramen. The left auditory nerve was fatty.

Sections of the medulla oblongata were made, to learn the condition of the auditory nuclei on each side. No deviation from the normal condition was observed in the sections examined. The portion of the auditory nerve which sweeps round the medulla posteriorly contained cells not varying in size from the normal. This upon both sides. The auditory nucleus within the medulla was not observed to be changed, where examined. By some mistake, I did not carefully examine sections made at the point where the auditory nucleus reaches its greatest development, but at the lower part. It would seem, however, that had these nuclei been degenerated, the process would have been apparent here as well as higher.

Amaurosis is a symptom frequently observed in tumors of the cerebellum as well as elsewhere in the brain. Dr. Clifford Allbutt discusses the mechanism of its production, and concludes that, in the majority of cases, it is due to an interruption of the venous circulation, giving rise to pressure in the ventricles, and thus, either to pressure upon the optic tracts, or to the "choked disk." It seems certain from the early examinations that an interruption to the return of blood from the disk and retina was the cause of the gradual

loss of sight. Whether the interruption took place indirectly by effusion into the ventricles, or more directly, is not so certain. The tumor might from its position have exercised pressure upon the left lateral sinus. There was no large amount of serum in the ventricles at the autopsy, although it is, of course, possible that it may once have been present and disappeared, leaving the retinae and nerves irreparably injured.

Deafness, however, is far from a frequent symptom. Dr. Hughlings Jackson* quotes Vulpian as saying that nothing is rarer than trouble of hearing in alterations of the cerebellum. He himself has never seen a case of double deafness from tumor of the cerebellum. His impression is that "deafness does not result from intracranial tumor or other kind of adventitious product, unless the auditory nerve is actually involved, or directly pressed upon." He mentions, however, two cases (one his own), in the first of which there was a tumor at the junction of the pons and medulla oblongata on the left side, and complete deafness in both ears. In the other, the tumor grew from the sphenoidal fossa and extended as far backwards as the seventh pair. There was, however, no paralysis of the portio dura observed in this latter case. "In both the above mentioned cases the tumor could have affected (affected directly, that is) but one of the auditory nerves, and yet the deafness was double." He also records a case of a tumor the size of a walnut, which grew from the front part of the left lobe of the cerebellum, in which case there was deafness of that side only.

This present case does not contribute toward a solution of the problem. The deafness upon the left side is clearly accounted for by almost complete destruction of the nerve. A travelling across of a microscopic lesion from the auditory nucleus of the left side to that of the right might be thought of, but such a lesion was wanting, not only on the right side but on the left, where the nerve was destroyed. Any morbid process, beside extending across the medulla by continuity of tissue could hardly fail to involve the nuclei of the glosso-pharyngeal, pneumogastric and hypoglossal, which lie between those of the two auditories, and the functions of these nerves were slightly if at all affected. A transmitted pressure could hardly have been the cause, as it must have involved as well the rest of the medulla oblongata, and this we find transmitting nervous impressions from the brain to the cord perfectly upon the right side, and with only a very partial impairment, upon the left. The most promising alternative left is, it seems to me, a neuritis or degenerative lesion of the expansion of the auditory nerve in the labyrinth, analogous to the change observed in the retina. I regret exceedingly that the petrous portion on the right side, which I handed to Dr. Blake for examination, was too much decomposed to allow him to make any satisfactory observation on this point.

* Medical Times and Gazette, July 13, 1872.

The motor paralysis is worthy of some remark, inasmuch as it was probably not so simple a phenomenon as in most cases of hemiplegia. Had the paresis of one side of the body and limbs been a mere consequence of pressure upon the medulla oblongata, it should have been upon the opposite side to that upon which it really existed, and upon which the tumor was situated, since the pressure must have been exerted at a point considerably above the decussation, and, moreover, would probably have involved the hypoglossal. It seems to have been rather that weakness and deficiency of motor power, which is not unfrequently observed in tumors of the cerebellum, than an interruption to the transmission of motor impulses to the muscles, and was, therefore, rather a consequence of the lesion (softening and cysts), secondary as I supposed it to be, of the cerebellum, than of the neoplasm itself. The paralysis of the face, much more marked, if not absolutely complete, was, of course, due to the destruction of the facial outside of the medulla.

Luys states, in regard to cerebellar hemiplegia (which is on the whole rare), that he has found it eight times direct and six times crossed. Cerebellar paralyzes are characterized sometimes by a simple facial paralysis, sometimes an isolated paralysis of one member, and sometimes by a weakness more or less marked of all one side of the body.

According to Luys's theory of the connections of the cerebellum, when the paralysis assumes the form of a general weakness of one side, that is to say a failure on the part of the cerebellum to send its normal and usual reinforcements to the motor impulses passing from the brain to the cord, it should always be on the same side with the lesion, making two crossings, once to the opposite side through the middle and perhaps inferior crura, and back again through the decussation of the pyramids.

The posterior half of the left eye with about three-fourths of an inch of the optic nerve attached was handed, for examination, to Dr. O. F. Wadsworth, who reports as follows:—

The specimen was hardened in chromic acid and afterward in alcohol. The nerve was very evidently diminished in diameter, and the space between the sheaths was somewhat increased, but not more than the small size of the nerve would account for. There was no special expansion of the outer sheath near the globe. The retina, as was to be expected when only the posterior half of the globe is removed, was separated from the choroid and uneven, so that it was impossible to judge from its anterior aspect whether a projection at the outer side of the papilla was due to swelling or folding of the retina. A horizontal section through the nerve showed that the papilla as well as the retina on either side was very considerably thickened. Near the centre of the surface of the papilla was a shallow depression. On the inner side, the greatest thickness was nearly over the edge of the scleral opening, and then gradually

diminished. On the outer side the swelling was much greater; here there was a marked rounded prominence. The greatest projection was a little to the outer side of the scleral edge, and from this point the anterior surface of the retina curved pretty sharply backward. Within little more than a line of the disk on either side, the retina became of nearly normal thickness. Behind the elevation, on the outer side of the disk, a greyish, semi-translucent, oval mass could be seen with the naked eye, apparently imbedded in the outer layers of the retina. For a short distance only, near the papilla, the retina was in contact with the choroid, elsewhere it was free and its posterior surface was covered by a thin, easily-detached, friable layer.

Microscopic examination of transverse and longitudinal sections of the nerve showed that it was in an advanced stage of atrophy. Nowhere could normal nerve fibres be seen. Fragments of longitudinal sections, teased out with the needle, brought to view fine fibres, the size of axis cylinders, but without their characteristic varicosities, which may perhaps have been altered nerves. The bands of connective tissue surrounding the nerve-bundles were wider and more irregular; the spaces between them smaller and more broken than normal. The fine fibres and small, round and stellate cells, which are found in the normal nerve around and between the fibres of the nerve-bundles, were decidedly increased in number. This was especially evident in their transverse sections. Here, in many places, nothing but a mesh-work of fine fibres, interspersed with small, rounded cells, could be seen in the spaces normally occupied by the nerve-bundles. The fibrous bands, passing across the entrance of the nerve from the sclera to form the lamina cribrosa, were much enlarged. The central vessels presented nothing special. The inner and outer sheaths were apparently normal; in the meshes of the space between the sheaths, however, there was an evident increase in the number of small cells.

The increased height of the papilla appeared due in part to proliferation of its connective tissue elements, but also in great degree to a peculiar thickening and change in the walls of the vessels. The calibre of the larger vessels was generally diminished, but with the exception of one or two of the larger arterial branches the walls of all the vessels were greatly thickened and presented a homogeneous, glistening appearance. Many vessels with the calibre only of capillaries, and which, from their position and course as well as their number, must apparently have been such, had glistening walls two or three times their calibre in thickness. The hypertrophy of the papilla was limited to increase in height; laterally it did not spread beyond the scleral border. Rather to the outer side of its centre were the traces of a physiological excavation, but this was nearly filled by a growth of connective tissue fibres, and from its borders a thin layer of connective tissue spread for a short distance on both sides, parallel with the anterior surface of the retina, but separated from it by a narrow interspace.

The retina showed everywhere atrophy of the nervous elements; the nerve fibre layer, even in the neighborhood of the papilla, was diminished in thickness, and contained an increased number of round and oval nuclei; no trace of ganglion cells were seen. Sclerosis of the walls of the vessels, so marked in the papilla, existed also, though to a much less degree, in the retina. In the portion of the retina near the papilla, the changes were much greater, especially of the outer layers, the alteration of which alone contributed to form the increased thickness. In the nerve fibre layer, the radial fibres were rather more distinct than normal, and the internal limitans was slightly thickened and thrown into minute folds, apparently from irregular lengthening of these fibres. Scarcely a trace of the normal structure of the outer layers could be made out. The tissues were converted into a meshwork of fibres, in the interstices of which small round and oval nuclei, and pale, granular, oval or stellate cells were situated. This meshwork was made up of the extremely elongated radial fibres, which interlaced in all directions, often formed large loops, or, near the surface of the choroid, curved round and ran almost horizontally for some distance. A little removed from the edge of the nerve was an exudation, somewhat oval in cross section, lying just in front of the choroid. It was strongly refracting, nearly homogeneous, and round and oval cells, part pale, part containing brown pigment, lay in crevices in its substance. In many places around its edges, and on its anterior surface, brown pigment was heaped up, mostly contained in cells. Comparison of numerous sections showed that the exudation extended nearly if not quite around the nerve, and was much thicker on the outer side, where it made up fully one half the height of the greatest prominence. In front and on the sides of the exudation, the fibres of the retina could often be traced a short distance into its substance, and here and there the fibres curved in a long sweep toward its posterior surface. Around the walls of one retinal vessel, a mass of brown pigment, contained in cells, was heaped up, and from this a band of connective tissue could be traced backward, along which cells containing pigment were scattered. Elsewhere, except in the outermost meshes, hardly a trace of pigment was found in the retina. There were no signs of hæmorrhage, and all the pigment seen resembled in color and appearance that of the retinal epithelium. The thin, friable layer, which has been mentioned as lying on the posterior surface of the retina, consisted of granular matter, small cells, pigment cells and free pigment. There was no trace of the rods and cones. The epithelial layer was generally in place, but greatly altered; the cells were much increased in number, their contour and arrangement irregular, and but few showed any appearance of a nucleus.

The choroid, aside from an apparent thickening of the connective tissue, was normal so far as examined.

Progress in Medicine.

REPORT ON DISEASES OF CHILDREN.

By D. H. HAYDEN, M.D.

RHACHITIS.

THE following extracts are taken from an article by Dr. John S. Parry, in the January number of the *American Journal of the Medical Sciences* for 1872, entitled "Remarks upon Rhachitis." In the commencement, the author gives a full and interesting historical account of the disease. There is a prevailing opinion in America that rhachitis is a much rarer disease in this country than in Europe. According to Parry's experience, based upon observations in a large hospital in Philadelphia, this is in no ways true. Of all the children between one month and five years of age, twenty-eight per cent. were rhachitic, whilst according to statistics of Rittershain, of Prague, taken from his clinique, thirty-one per cent. were affected with this disease; nor is the disease confined to hospital practice and to the poor, it being found also amongst the upper classes. It is, to be sure, extremely rare in new-born infants, but at the same time it is not correct to say that this is never the case. The writer himself has never seen it, although it was often sought for by him in the autopsies of a great number of new-borns and of infants who had died shortly after birth; but several such cases have been reported. Gee (*St. Bartholomew's Hosp. Rep.*, iv. p. 71) has observed it as early as the third or fourth month. After completion of the first dentition, children, who up to this time have been healthy, are never affected. The thickening of the ribs has generally been taken as the first unmistakable physical sign of the disease, but there are certain characteristic symptoms which make their appearance before these changes, and which, until recently, have received no attention; amongst these are to be classed the disturbances of digestion described by most authors. Amongst the symptoms almost always preceding the affection of the bones are to be mentioned: profuse perspiration and a general increase of the temperature of the body at night. The perspiration is a local one, being particularly limited to the head, neck and upper portion of the breast and back; these parts feel cold and moist. In the other parts of the body, the skin is red and hot. This local perspiration takes place principally during sleep; sometimes, however, when the child is awake, after any excitement or movement. The perspiration is often so profuse as to wet through the pillow. The high temperature at night, which the mother often speaks of without being questioned upon the subject, is so great that the child throws off the bed-clothes, even in the coldest season of the year. It is very rare for this symptom to be absent, though, according to Parry, the former is the most important, diagnostically; and from its existence, alone, the diagnosis of commencing rhachitis can be made.

Some authors speak of a universal tenderness of the body and pain on the slightest movement; this symptom Parry believes to be the sign of the commencing changes in the bones, and due to them, which

opinion Vogel shares with him. The rolling of the head to and fro by the child upon the pillow, by which the back part becomes bald, is classed by Parry with the above; and these symptoms, together with those referable to disturbances of nutrition, constitute the prodromata of the completely developed disease, not confined, however, to the earliest stages alone, but often extending into the second period—that of disease of the bones.

The first appearance of disease of the bones is a thickening of the ribs at their juncture with the costal cartilages; this enlargement, however, is not always demonstrable, as Parry has, in some autopsies, found it situated upon the internal intra-thoracic side, there being no change upon the external surface, and consequently nothing perceptible to the touch. This fact has also been noticed by Vogel. To discover this change, we must examine carefully the lower left front of the chest at the articulations of the fourth, fifth and sixth ribs with the costal cartilages; these, over the region of the heart, being the earliest affected.

Simultaneously with these appearances on the ribs, in some cases preceding them, craniotabes shows itself. According to Elsässer and Vogel, this is the first symptom. Parry has seen thickening of the bones of the forehead when there was no craniotabes, but never without there being, at the same time, thickening of the ribs. The disease of the bones of the extremities is generally, not always, seen at the wrists first. Brayne relates a case where the elbow was first affected. As the disease advances, it invades quite generally the osseous system, and the bones become sometimes enlarged to twice or thrice their original size. As a rule, the lower extremity is less frequently affected than the upper extremity and ribs. Those bones are especially attacked which are but thinly covered with soft parts, though the femur and humerus do not always escape. At the same time that the epiphyses swell, according to accurate measurements by Alexander Shaw, the diaphyses become shortened and diminished in circumference. The diminished stature is not owing exclusively to the curvature of the extremities, but in part to an actual shortening. The standstill in growth is a greater one in the lower than in the upper extremities.

All the bones of the extremities are curved or contorted, the cause of this deformity being attributable to the action of the muscles or to that of the weight of the body—according to Parry's views, to the latter. The humerus can be bent in two directions, either outwards, because the child leans over and supports itself upon its wrists, or it is bent at the place of insertion of the deltoid, not from any action of the muscles, but from the weight of the arm, which bends the humerus while drawn up and supported by the deltoid. The forearm is bent outwards and forwards; in the femur, the natural curve is increased or it is bent either inwards or outwards; the bones of the leg either outwards or forwards. The bones of the cranium undergo changes, both in their thickness and size; to the changes in thickness belongs the craniotabes first described by Elsässer, which has a special importance from the nervous symptoms accompanying it. It is the posterior part of the head alone which is thus affected, and, as a rule, only the occiput, the protuberantia, however, always being free. In severe cases, the disease affects the posterior border of the parietal bones, and sometimes the squamous portion of the temporal; the parietal eminences remain invariably intact.

The number of perforations in cases of softened occiput varies; Parry observed one case with twenty-two, Elsässer describes one with thirty. Parry counsels great caution not to confound such with those dependent upon deficient ossification. These perforations, dependent upon a previous thickening and consequent softening of the bone, are brought about by the pressure of the brain from within and of the pillow from without; it is only thus that their occurrence upon the occiput can be explained, and when they take place elsewhere it must be due to the peculiar position in which the child lay. Parry coincides with the view of those who trace a connection between craniotabes and laryngismus stridulus, considering the latter as caused by the former, for the following reasons: the occurrence of both at the same period of life; the causes being similar (Clark, West, Lee); further, pressure is a powerful, exciting cause of laryngismus stridulus, the occurrence of the attacks at night being thus explained; both yield to the same remedies (Jacobi, Gee). Laryngismus is not the only nervous disease connected with rachitis. According to Petit, Elsässer and Gee, convulsions are frequent in rachitic children, and this disposition to convulsions is the great cause of the mortality amongst them.

The changes in thickness of the bones of the cranium are not easy to discover during life, but when the disease is strongly developed a thickening in the neighborhood of the sutures can be demonstrated. In many cases of rachitis, the bones of the face seem very small in comparison with those of the cranium. The fontanelle and often, also, the coronal and sagittal sutures remain open until the third or fourth year, sometimes until the end of the sixth. An actual increase in size of the bones of the cranium does not take place according to the measurements of Ruz, the chief change being in the bones of the face, which, in rachitic children, are smaller. With regard to the changes in shape, two general types are to be remarked: (1) the antero-posterior diameter can be diminished; (2) the head loses its normal round form and assumes a rectangular one, this last change being by far the most frequent; the forehead is very prominent, the prominences of the os frontis and of the parietal bones being strongly developed, and the cranium above and posteriorly, also the frontal suture being depressed. The rachitic skeleton in addition to its deformity is characterized by a stand-still in its growth. Dentition is, as a rule, delayed, and the fact that a child has reached its ninth month without dentition having commenced suffices to awaken a suspicion of beginning rachitis. The teeth come with difficulty, and their shape and arrangement are often abnormal. It is not uncommon for rachitic children to be one year or eighteen months old without dentition having begun. The clavicle is often very deformed, but Parry has never seen this without the thorax being simultaneously seriously affected.

The walls of the chest are laterally compressed and flattened, the sternum pushed forwards. By enlargement of the liver, the border of the ribs of the right side is pushed upwards. Much stress is laid by Merée and Dupuytren upon the existence of enlarged tonsils in cases of rachitic thorax. The effect upon the heart and lungs of such a thorax is an important one. Parry agrees with John Shaw, in opposition to the views of Eulenburg, that lateral curvatures of the spine are rarely the result of rachitis. The diminished size of the pelvis

Parry considers often caused by it. The abdomen we find enlarged and prominent, the causes of this being numerous; in the first place, the diminished thoracic cavity: then, tympanites, which is nearly always present. Enlargement of the liver and spleen are sometimes found. Parry calls particular attention to a false paraplegia sometimes met with in rhachitis which could be easily confounded with a true paraplegia. Children attacked with this are small, have a large head, weak intelligence, a peculiar aged look, and but little deformity of the bones; the lower extremities are powerless, the muscles atrophied, the child cannot stand, but has strength enough to move the limbs when sitting or lying; the muscles react with electricity. That this disease has a connection with rhachitis is more than probable from the fact that we find coëxisting the other symptoms peculiar to the disease. After rhachitis, perfect health and long life can follow, and the bones can become strong and firm.

IRREGULARITY OF TEETHING, A MEANS OF DIAGNOSIS OF BEGINNING RHACHITIS.

L. FLEISCHMANN.—[*Wiener Med. Wochenschrift*, No. 50, 1871. *Allg. Med. Cent. Zeitung*, 1872, Nos. 1 and 2.] This subject is generally very briefly alluded to in text-books of diseases of children, and generally with the remark that rhachitis is the cause of a delay in the appearance of the teeth. Rhachitis can be hereditary or acquired. It is with the latter class that the author has to do, and is the most frequent form, affecting nearly one-third of all children. Rhachitis is due to a peculiar disturbance of nutrition in a growing body, a "dystrophy," amenable with more or less success to treatment at the beginning. Children nourished artificially are, for obvious reasons, more liable to it than those brought up at the breast, and the latter, when affected, are generally so after weaning, that is after the tenth or twelfth month. The disease manifests itself most strikingly in different parts of the bony skeleton, although other parts of the body show traces of insufficient development. For the increase of secretion of the phosphates in the urine in many cases of rhachitis, we have at the present day no sufficient explanation, yet we know that the treatment, based upon this symptom, of administering these salts has not proved effectual. The phosphates not only serve for formation of bone, but are also contained in the plastic juices as albumen, fibrin, casein, and, according to Liebig, the insolubility of the form-elements is due to the combination of these matters with phosphate of lime. This explains the richness in phosphates of these plastic exudations, whilst in non-organized exudations they are absent.

More sensitive than the other bones to an insufficient supply of the phosphates are the teeth, analysis showing them to contain 98 per cent. of inorganic matter, of which 88.5 per cent. is phosphate of lime and fluoride of calcium, and 8 per cent. carbonate of lime. The teeth come first in the order of bones affected, and the disturbances, therefore, in the ossification of the teeth can serve as a valuable sign of a very important disease. The formation of the embryo of a tooth commences in the second month of foetal life, and in the middle of the third month is completed for all the teeth. The milk-teeth are formed in the fifth month, and are so far advanced at birth that the crowns of the incisors and first molars are completely developed, those of the canine and posterior molars one-third formed. As the acquired rha-

chitis, according to experience, rarely comes on before the end of the sixth month, and most frequently in the latter part of the first year, reaching its highest point between the second and third year, it follows that, if we place the appearance of the first teeth at the seventh month, the rachitic process will not have had any influence upon these. The only exceptions to this are when a hereditary rachitis makes rapid progress immediately after birth, or when the infant is weaned very early and is brought up with improper food; in such cases, it happens sometimes that one waits in vain for the appearance of the first teeth and sees a year or more elapse. In the majority of cases, rachitis shows itself first after the breaking through of the first molars. We should be very watchful for the appearance of these latter, and of the following groups. There is a great difference within the limits of health as to the time of their appearance; according to Bednar, it is between the eleventh and seventeenth month, Barthez and Rilliet placing it still later. A child that gets its first teeth at four months will finish teething earlier than one that gets them first at eight months. The early or late appearance of the first incisors often depends upon hereditary peculiarities, and has no signification. The important point is how great is the interval of time between the appearance of the different groups, for when a child has once begun to teeth it generally preserves a certain regularity.

Accepting rachitis as a disturbance of nutrition, great attention must be paid the diet. When practicable, a suitable nurse should be obtained, even when the mother can nurse, if her previous offspring be rachitic. For children who must be brought up without the breast, the relationship of the nourishing matter to the salt in the mother's milk is the best guide in the construction of the food. Liebig's composition is the most useful to be added to the milk, especially when there is disposition to the formation of acids; when this cannot be obtained, care must be taken to neutralize the cow's milk, which is generally acid. The children should be in the open air daily one to two hours, and in the meanwhile the room should be well aired. Children who have, at least, ten teeth can have a mixed diet, but should not be allowed all food upon the table, especially when it is highly seasoned. The abundant use of specific remedies, as phosphates, is based upon the attachment of too much importance to single symptoms and upon a want of appreciation of the whole process. When digestion is once impaired, the phosphates are not able to effect a restoration of the body poor in plastic juices.

Of first importance in connection with careful diet is the employment of tonics, either alone or with bitter medicines and iron. If the strength become somewhat increased, an attempt may be made with cod-liver oil, but not to be forced if there is great aversion to it. The character of the dwelling demands great attention. Baths several times a week containing salt, aromatic herbs, iron, malt or bran, also help. Against the laryngo-spasmus, in addition to general treatment, electricity and washing the head and back with cold water are recommended. Deformity of the bones requires proper orthopædic measures, and with a disposition to such, the little children should not be carried in a sitting position, but should be made to lie on hard bedding. If neglected at the earliest period, the later condition of the bones renders the treatment of changes in their shape, after recovery

from rachitis, fruitless. Cod-liver oil, when well tolerated, is to be employed, not as a specific, but as food, allowing the formation of plastic material to go on better, by reducing, like other fats, the consumption of the nitrogenous matter. If, under its use, indigestion or diarrhoea comes on, its continuation does harm, aggravating the disease. It should be given in teaspoonful doses daily, increasing to a dessertspoonful, the latter quantity in divided doses. Diminished appetite is improved by the amaro-adstringentia, and in this respect iron is the best remedy, having, in addition, a good effect upon the formation of the blood. *R.* Tinct. ferri malat., $\mathfrak{z}\text{ij}$, tinct. malat. amar., $\mathfrak{z}\text{i}$; *M. S.* three times a day, three to five drops. Wine, water, milk, soup, &c., can be used as a vehicle. If there is diarrhoea, the tinct. ferri malat. is contraindicated, and we can try *R.* Tinct. ferri muriatis, aquæ cinnamom., āā $\mathfrak{z}\text{ij}$; *S.* as above; or *R.* Ferri carb. sacch., ext. ligni campech., āā gr. vi., elæosacch. vanillæ, $\mathfrak{z}\text{ss}$; div. in dos. sex. *S.* Morning and night, one powder. The following is also good: *R.* Ferri lactatis, gr. vi., sacch. alb., $\mathfrak{z}\text{ss}$; div. in dosis sex. *S.* Morning and night, one powder. Larger doses of iron than the above are superfluous, as it passes away with the stools. Fleischmann prefers the medicine in the liquid form for infants. Where there is acidity of the stomach he prescribes: *R.* Ferri carb. sacch. gr. x., sodæ bicarb., sacch. albi, āā $\mathfrak{z}\text{i}$; div. in dosis x. *S.* Morning and night, one powder. When there is habitual constipation: *R.* Ferri carb. sacch., pulv. rhei or ext. aloes āā gr. vi., elæosacch. cort. aurant. $\mathfrak{z}\text{ss}$; div. in dos. sex. *S.* as above. The affections of the bronchi and lungs, which make their appearance frequently in the spring and autumn, require great care. In the lighter cases, a mixture containing ipecac. (gr. i. ad $\mathfrak{z}\text{i}$) suffices. In inflammation of the bronchi, and in broncho-pneumonia with a weakened action of the heart, Fleischmann has seen good results from the use of carbonate of ammonia, which remedy he urgently recommends in such cases. *R.* Mist. gummosæ $\mathfrak{z}\text{ij}$, liquor. ammon. carbonat. gtt. x.-xx. *S.* One teaspoonful every two hours. When there is fever, the child should be confined to the room, and, in infants, the bath should be omitted. Rachitic children, more than any others, are very sensitive to changes of temperature, and it is a good plan for them to wear flannel next to the skin.

THE USE OF CHLORAL HYDRATE IN CHILDREN'S DISEASES.

ALOIS MONTI.—[*Jarhb. f. Kinderheilk.*, N. F., v. 1, Dec. 1871.]—Chloral hydrate has the same effect upon children as upon grown people. As first effect, is seen a slight reddening of the face; from within half an hour to an hour after a dose, a condition similar to drunkenness sets in, followed by deep sleep. At first, the pulse is somewhat accelerated, but later it becomes slower than normal. Respiration remains unchanged, the temperature sinks one tenth. The sleep is a perfectly natural one, and there is more or less anæsthesia. After very large doses, the hypnotic effect is preceded by considerable excitation, with contracted pupil, followed by deep anæsthesia and stupefaction. After waking, no disturbance of the general health is left behind, no sleepiness, no cerebral congestion. In a few exceptional cases it causes vomiting, never diarrhoea; on the day following its administration, the urine reduces Fehling's solution. As an anæsthe-

tic its value is very slight, and it is not recommended for such purpose; but, as a hypnotic, it has proved itself a most excellent remedy. For new-borns, the dose is one grain, for sucklings two to three grains, for children under five years five grains, and for children between five and twelve years eight to twelve grains. In cases of new-borns, Monti prescribes it generally in powder form, as follows: *R.* Chloral hydrate gr. vi., pulv. gummosi $\mathfrak{S}$ i. Div. in dos. sex. To be given dissolved in a small quantity of the mother's milk. When the children are older, the author prescribes the same in an aqueous solution. The prescribed dose is generally ordered every ten or fifteen minutes, until the effect is produced. When frequently repeated during the twenty-four hours, a certain precaution is necessary, as, according to Richardson, it has sometimes a cumulative action. Beyond a certain amount, it should not be given within twenty-four hours, even should the symptoms continue. In infants six to ten grains, in children under five years ten to twenty grains, and in larger children twenty to forty grains should not be exceeded *pro die*.

The application of chloral hydrate as enemata is only allowable when it cannot be given by the mouth, and, in such case, double the dose is commonly used, dissolved in a small cup of barley-water. The effect is produced more slowly and after a longer period. Verga and Valsnani have used chloral hydrate in the form of suppositories, and in children's practice this method would be preferable to enemata.

Various observers have, in the course of the last year, experimented with chloral hydrate in cases of trismus and tetanus. Results varied. Most cures reported by other authors were of cases where there was a protracted course and the temperature low; in such cases, according to Monti's experience, the prognosis is most favorable, and the curative power of chloral hydrate in tetanus should not be considered as demonstrated until cases are published where recovery takes place in spite of a rapid course and high temperature.

The action of chloral hydrate in the convulsions of children is favorable, according to Monti being indicated in all cases of convulsions, whether idiopathic or symptomatic, except when there are complications of bronchial, lung or heart troubles. The medicine not only puts a stop to violent convulsive movements, and shortens the paroxysms, but prevents also their return. In cases of anæmic and atrophied children, or where there is collapse, great caution is necessary. The remedy is particularly effective in idiopathic convulsions of new-borns and sucklings four to eight weeks old, and in the uræmic convulsions in Bright's disease after scarlet fever; also in convulsions, the result of meningitis or tubercular disease of the brain, it is recommended, and has the advantage of opium that no bad effects are left behind. In those cases only of laryngo-spasmus which are not connected with rhachitis, chloral hydrate is indicated; with the latter, the anti-rhachitic treatment being more effective. In chorea major as well as minor, chloral hydrate has been extensively recommended. According to Monti, as a symptomatic remedy, it is worthy of consideration; at first, the doses should be small, and later gradually increased. As a hypnotic, the author has frequently used chloral hydrate in delirium, whether following meningeal or cerebral disease, or the result of high fever, as in the exanthemata, typhoid fever, &c., and always without any bad after-effect.

In pertussis, according to the observations of Ferrand and Walter Ridgen, as well as from the author's own experience, chloral hydrate seems to act only as a palliative, giving quiet nights and rendering, perhaps, the paroxysms less severe, but having no effect upon the course or duration of the disease. Its administration should be confined to the early stages; in the third stage, when there is abundant secretion from the bronchial mucous membrane, it is not only of no use, but by diminishing the secretion it does harm. As a remedy to relieve pain, it works excellently and can be employed symptomatically against any pain. It is used with excellent effect in colic, especially when opium is contra-indicated, although the removal of the colic is of course the most important treatment. As a remedy for enuresis nocturna, it has been highly recommended by Thomson and Bradbury.

PHYSIOLOGICAL DYSPEPSIA FOR STARCHY FOOD IN INFANCY.

PROSPERO SONSINO.—[*Practitioner*, September, 1872.] If we attempt to feed an infant with the usual aliments of the adult, we find that it suffers very soon in its nutrition and that its life cannot be sustained. This is owing, according to the author, to a physiological inaptitude on the part of the infant to digest any kind of food containing starchy matter. Various conditions coöperate to produce this so-called physiological dyspepsia, and, as first in importance, are cited the various peculiarities in the anatomical conditions of the alimentary canal, which the author minutely describes. The imperfectly developed salivary glands and pancreas, both powerful factors for the conversion of starch into glucin, are also mentioned as contributing to produce this condition. The author reports various experiments upon very young animals from which this conclusion is drawn. From an analysis of the composition of milk, all the organic groups of alimentary principles are present, the hydro-carbons being represented exclusively by a kind of sugar called lacticin, which by an insignificant modification is converted into glucin, whereas the starchy principle, a conspicuous ingredient of the diet of the adult, and which needs an elaborated process of digestion to be converted into glucin, the material fit for absorption and diffusion, is entirely absent. The author condemns the tendency of not only mothers but practitioners to feed infants with starchy matters in the form of pap, and quotes Zimmerman, who says, "I know very well that millions of infants are fed with pap, but I know, also, it has killed many hundreds of thousands of them."

Sonsino alludes to the recent discovery of the property of infusion of pancreas to artificially digest starch, but does not believe it advantageous to feed infants with large quantities of starchy food, even if thus previously rendered digestible, notwithstanding that many advocate it as indispensable as fuel for the process of hæmatosis; he thinks this better accomplished by fatty matters, the former being more advanced than the latter in the degree of oxydation.

[To be concluded.]

LITHOTOMY IN A CHILD ONE YEAR OLD.—A case is reported by Dr. Hingston, of Montreal, in the *Canada Medical Record*, of the successful performance of lithotomy in a child aged one year. The stone was hard, and about the size of a pea-nut, and was supposed to have existed from birth.

Reports of Medical Societies.

NEW YORK ACADEMY OF MEDICINE.

Section of Obstetrics and Diseases of Women and Children.

At a recent meeting of this Section, the following cases were related:—

Diaphragmatic Hernia.—This case occurred in the practice of Dr. Wm. C. Hunter, and was related to the Section by Dr. Ross.

The patient died at the age of ten days. The parents are healthy English people, and they have two living, healthy children. The birth of the child was somewhat protracted, on account of inertia of the uterus, but it was easily terminated by the forceps. The baby seemed well at birth, and nothing unusual was observed in its condition till it was two or three days old, when it nursed with difficulty and seemed to have abdominal pain. There was no vomiting, and the bowels moved regularly. The prominent symptom was excessive dyspnoea, and there was some lividity, especially of the extremities. The diagnosis was, malformation of the heart or large vessels. Death resulted from the dyspnoea and imperfect oxygenation of the blood.

Autopsy, three or four hours after death. Head not examined. About two feet of the small intestine was found occupying the left pleural cavity, having entered this cavity through an opening in the posterior part of the diaphragm. The displaced intestine was pale, resembling, in appearance, that which remained within the abdomen. On making traction from below, the thoracic portion of intestine was readily returned to its normal position. There was, therefore, no constriction or inflammation. The diaphragmatic aperture would easily admit a hen's egg. Dr. Hunter believes that the ligamentum arcuatum externum constituted the border of the aperture, the intestine passing underneath it. The left lung was, of course, in a state of atelectasis, and hence the dyspnoea. The aperture was the result of imperfect development.

Latent Pneumonia.—Dr. Lewis Smith related the following case:—

A boy, six years nine months old, previously well, with the exception of a slight cough, complained, on the evening of Oct. 12th, of chilliness, headache and pain in the left ear. He had played several hours in the afternoon of that day with boys in the street. A few hours afterwards, when I visited him, the pulse was 140 and temperature 105°. The respiration was easy, and only so accelerated as to correspond with the degree of fever. There was no symptom to direct attention to the chest, as the cough was not frequent, and was painless as on other days, and no cause of the febrile movement could be detected on a careful examination. The tongue was dry and furred, and the bowels were sufficiently open. *R.* Tinct. aconit. rad. gtt. i. every two or three hours, according to the fever.

Oct. 13th.—Pulse 136, temp. 105°. Evening.—Pulse 136, temp. 103½°. He is delirious at times, and was considerably so at night; symptoms otherwise the same.

Oct. 14th.—Pulse 128, temp. 104¾°. He still exhibits delirium at times, which is most marked at night. Tongue still dry; complains

less of headache and earache, and has no pain in the chest; coughs occasionally, but without pain; respiration easy, and but little accelerated. He has moderate thirst and no appetite. To-day, on repeating the examination of the chest, solidification was detected, of small extent, at the summit of the right lung.

Oct. 15th.—Pulse 136, temp. $103\frac{3}{4}^{\circ}$. Evening.—Pulse 118, temp. $102\frac{1}{2}^{\circ}$. Quinæ sulphat., in doses of about one grain, was to-day substituted for the aconite. The symptoms continued to improve, and by the 17th, the patient was fully convalescent. The delirium ceased on the fourth day, and, during the first few days of convalescence, both pulse and temperature were below normal. On the 18th, the pulse was 56, temperature $95\frac{3}{4}^{\circ}$.

Remarks.—Pneumonia, occurring at the summit of the lung, is not uncommon in infancy, due to extension of bronchial inflammation, but usually, at the same time, portions of the lower, or lower and middle lobes, are also involved. Pneumonia of the apex, not due to extension of bronchial inflammation, nor to the irritation of tubercles, is, on the other hand, comparatively rare, both in infancy and childhood, as it is in adult life. So many cases, however, do occur between the ages of two and ten years, that physicians should always examine the infra-clavicular and supra-scapular regions for its presence in all cases of suspected pneumonia, when the characteristic physical signs are absent in the usual location.

Pneumonia of the apex is, as a rule, on the right side. It is more apt to be latent, and therefore overlooked, than pneumonia of the middle and lower lobes, probably because there is less movement of this part of the lung during respiration, and it is more apt also to be accompanied by cerebral symptoms.

The above case shows the value of clinical thermometry. The diagnosis lay between a symptomatic and essential continued fever. Typhoid fever, of a mild type, was common in the part of the city where the patient resided, and many of the symptoms, it is seen, resembled those of that disease. But typhoid fever never begins abruptly, with so elevated a temperature as was present in this case. Typhoid fever may be excluded if the patient, on the first day, presents a temperature of 105° , or indeed above 103° . Knowledge of this fact probably prevented an absurd diagnosis, and led to a careful examination for a local cause of the symptoms.

Impetigo Contagiosa.—Dr. Smith also related the following case.

Mrs. L. was confined with her second child Oct. 10th, 1872. Her health, that of her husband, and of her first child—now fourteen months old—had been uniformly good, except that she was weaker, and did not have her usual good appetite in the last months of her pregnancy. Mr. L. keeps a fish-store, over which the family live, and the odor of the fish is apparent in the hall and apartments. This fact is stated because it was the only apparent non-hygienic condition. No one of the family, nor the nurse who took care of Mrs. L. and her infant, had previously any cutaneous disease. The older child had been vaccinated at the age of seven months, and none of the family have since been vaccinated.

On Oct. 13th, the baby, now three days old, was observed to have a few reddish maculæ about the neck, which soon developed into flattened vesicles, two or three lines in diameter. Most of these were

soon broken, and, on succeeding days, the eruption extended around the neck over the chest, the scalp, and along both groins. In the front of the neck and upper part of the chest it was confluent, so that nearly the entire epidermis, in this situation, was detached. The epidermis only was destroyed, the deeper layers of the skin presenting merely an inflammatory hyperæmia, which disappeared on pressure, and in a few days faded away. The reaction of the liquid which raised the epidermis was alkaline. The largest of the isolated eruptions were perhaps half an inch in diameter, while the majority had the diameter of two or three lines, as already stated. Those which were unbroken formed, as they desiccated, thin, yellowish scales, except on the scalp, where they were thicker and longer adherent. During the first days of the disease there was slight febrile reaction, the temperature being, at one examination, 99°, and the pulse at 140 per minute. The only treatment employed was the frequent application of oxide of zinc ointment, and a cure was effected in about three weeks.

On Nov. 28th, the older child was observed to have a similar eruption, near the groin on one side. The mother thinks that it was communicated from the baby by a diaper. The disease in this case pursued a similar course to that in the baby, but it was much milder, appearing in ten or a dozen places only, and declining in a little less time.

Remarks.—Contagious impetigo has recently received much attention from dermatologists, but there are points of interest relating to it which are still undetermined. It is especially a disease of infancy and early childhood; but adults, who have charge of affected children, sometimes contract it from them, though usually in a mild form. Last spring, this disease occurred among the infants in one of the wards of the Nursery and Child's Hospital of New York, and three of the female nurses contracted it, the eruption occurring in all upon the back of the neck, in two upon the face, and in two upon the scalp. These patients complained of a burning sensation at the seat of the eruption for about four days. The observations made in this institution are interesting, and assist in the elucidation of the disease. Dr. Beckwith, the House Physician, performed four inoculations with the lymph. Two were unsuccessful. The following were the results of the successful experiments. The first case showed an erythematous spot on the fourth day, and a vesicle on the sixth day. No other vesicles appeared on any part of the child. The second case "showed an erythematous spot on the third day, and a vesicle, half an inch in diameter, on the fifth day. Twenty or thirty more vesicles appeared around the point of inoculation, of sizes varying from two to five lines in diameter, and the arm was so sore than it was deemed improper to perform more inoculations."

The statement has been made that this disease is probably not contagious, but that the liquid of the eruption is irritating, so that where it comes in contact with the cuticle it vesicates. Do not the experiments of Dr. Beckwith disprove this? Two of his inoculations produced no eruption, and no inflammation, except that from the incisions, and the redness produced by the lymph in the successful inoculations did not appear till the third and fourth days, and the vesicles one or two days subsequently. How different the result from that of an irritating agent, the effect of which appears within twelve or

twenty-four hours. There can, I believe, be no doubt that this malady does possess a contagious principle, whatever its form and nature may be. Dr. Francis Delafield examined microscopically, at my request, the lymph taken from a vesicle a day old, upon the surface of the second of the cases whose history I have detailed, and, though he used a power which he thinks sufficiently high to detect any organism, saw nothing except epithelial cells, somewhat altered by the inflammation. It appears, therefore, that there was no fungus which propagated the eruption.

The point of chief interest in relation to the two cases related, was the mode of commencement and the age of the first patient. It is seen, from the history, that vaccination could have had no influence in determining the outbreak of the disease, and therefore the theory which supposes a relation between the two is not, to say the least, applicable to all cases.

It may be well doubted whether the term contagious impetigo is not a misnomer. This designation was first employed, I believe, by Tilbury Fox, who, in his earliest cases, I am told, examined the eruption as it appeared upon the scalp, where vesicles are seldom seen, and where cutaneous affections, which are in their nature vesicular, assume the form and character of pustules. The eruption in the infant, whose case I have related, I at first supposed to be a mild form of pemphigus, till I saw the close resemblance to Mr. Fox's description of contagious impetigo, and witnessed the propagation to the older child. Dr. Lucius D. Bulkley, who has seen this form of impetigo in the wards of Mr. Fox, visited these patients with me, and confirmed the last diagnosis.

In the *American Journal of the Medical Sciences* for July, 1871, is an abstract of the histories of very similar cases occurring in the city of Halle, Germany, and reported by Drs. Olshausen and Mekus, in the *Arch. f. Gynæcologie*, 1870. These observers designate them cases of *acute, contagious, non-febrile pemphigus in new-born and quite young infants*. They saw six cases at different dates in 1864. "The infants were healthy, strong and vigorous, and the mothers without a trace of lues." Again, in 1869, the disease occurred epidemically in Halle. "The eruption usually made its appearance from three or four to seven days after birth, and lasted from two to three weeks. The pemphigus eruption appeared in the practice of different midwives to a very different extent. In that of five it occurred with great frequency, in that of eight others not at all." These physicians infer from their observations that this eruption is benign, and not dependent on a cachexia, and that "it is always or occasionally contagious, and may then attack older children."

RHEUMATISM IN WHALES.—There is unquestionably a great deal of unknown and unrelieved suffering in the world. If want of sympathy and difficulty of finding relief add much to physical distress, it is sad to think of the new field of woe on the largest scale which Dr. Struthers has discovered in hitherto unexplored regions of pathology. In studying the osteology of whales, he discovered that they are very liable to rheumatism. He has seen many examples of rheumatic ostitis in whales of different kinds. It has been said that animals are not subject to disease until they are brought into connection with man, but this fact contradicts the theory. It is the more remarkable, seeing that whales are less subject than man to variations of temperature. The cold-water treatment does not seem to be efficacious in the cure of the disease.—*British Medical Journal*.

Bibliographical Notices.

Lessons for Children about Themselves. Part. I.—The Body. Adapted to Children under 14 Years of Age. By A. E. NEWTON, late Superintendent of Schools in Washington, D. C. Illustrated.

POPULAR text-books on physiology belong in the same rank with popular works on natural history or botany, and side by side with Prof. Gray's "How Plants Grow" and "How Plants Behave," could stand a book entitled "Why Folks Breathe," or even "How Men Grow."

As Dr. Gray tells children how one creeper holds on by its leaf-stocks, and another by its tendrils, why should not some physiologist teach children that while we human beings simply swallow our food and digest it as soon as may be, the cow stows away her grass in one stomach till she has time to chew it over for the digesting stomach, while a lower animal still saves all trouble of hands and teeth by letting its food pass directly through the walls of its own body.

To make physiology interesting, we have only to explain it in a way comprehensible to children. The description of one organ will lead to questions about another, and, in fact, children will study physiology exactly as medical students study it, except that the former require more familiar illustrations and explanations adapted to their smaller range of experience.

By no means on this plan, however, is the book written, which, under the unpretending title "Lessons for Children about Themselves," attempts to teach a great deal of physiology, a great deal of good morals, a considerable amount of metaphysics, together with certain opinions which the writer lays down as unquestionable, but which would not be assented to by the majority of the Christian world.

Written in the form of questions and answers, the answers are seldom suggested by the questions, for which, in many cases, numbers—1, 2, 3, &c.—might as well be substituted, so that while the answers are such that they would practically have to be learned by rote, the questions must also be learned by rote or they will be useless.

The manner in which expressions are put into the mouths of children while they still can mean nothing to them, is well illustrated by the use made of single words. "Is it well to drink much while we are eating?" "It is not. Much liquid dilutes the fluids of the mouth and stomach so that they are not strong enough to do their work well." "What do you mean by dilutes?" "Makes thin and weak." [P. 33.]

If these "Lessons" are intended for children who do not understand the meaning of "dilute," why not say in the beginning that water makes the fluids of the mouth and stomach thin and weak?

We question whether it is desirable to load a book on physiology with moral advice, for one cannot help feeling some doubt whether this advice does much good if it is manufactured out of every stick and stone by the roadside and hurled in the children's teeth; and this is especially the case if the arguments are not convincing. If a father is manly, accomplished and graceful, agreeable and affectionate to his family, when his son sees him talking cheerfully over his after-dinner

cigar, of what force will be the closing sentences of the chapter on tobacco? "Must it not be a terrible thing to be a slave to such a filthy and poisonous weed?" "What do you think is the best way to keep out of its power?" "Here is what one little boy said about it:—

"I'll never use tobacco, no!
It is a filthy weed;
I'll never put it in my mouth
Said little Robert Reid."

The physiological part of the book is derived from the works of Dalton, Huxley, Youmans, Parton, Fiske and others, from which passages are frequently quoted. Those taken from the "Mental Cure," by Rev. W. F. Evans, do not add to the scientific value of the book. P.

The Mother's Register: Current Notes of the Health of Children.
From the French of J. B. FONSSAGRIEVES. New York: The Nation Press. 1872.

THE Mother's Register is a book for popular use, but of a very different character from the preceding, being arranged on a scientific plan, yet so simply and clearly that no mother will fail to understand it and put it into use. She has only to fill up from time to time the blank spaces with a letter here and a number there, in order to make a record of her child's life, which will be full and accurate. Mothers will be much interested in keeping this record and in comparing the records of different children, while physicians will find it valuable, not only in case of sickness for obtaining an accurate account of the past history of their patients, but also in making up statistics of subjects which do not ordinarily come under the doctor's supervision. Definite knowledge, for instance, with regard to the amount of influence which the teeth, at the moment of their appearance above the gum, exert on the rest of the system, might clear up some of the mysterious ideas which, in the minds of most people, hang about the period of dentition.

The translator has done well to add to the Girls' Register blanks for "Physical Exercise and Strength" and "Mental Exertion," which in the French edition were only used for boys. The translation seems to have been made very faithfully, and only once has the translator, who is not a medical man, given his own views on medical subjects. The author says "Swelling of the tonsils seriously affects the hearing, the expression of the face, the sound of the voice, the development of the chest. The question of an operation should be early considered." And the translator's opinion, added in brackets, that "the theory and practice of the homœopaths, who oppose an operation, seem here more reasonable to the translator," is of less value than it might have been had the translator given his reasons for holding this opinion. P.

Half-hour Recreations in Popular Science. Nebulæ, Comets, Meteoric Showers, and the Revelations of the Spectroscope regarding them. By PROF. H. SCHELLEN and others.

Coral and Coral Islands. By PROF. J. D. DANA. Boston: Estes & Lauriat. Pp. 143 to 190.

THE serial before us is an interesting one, containing, as its title denotes, a scientific description of subjects of general interest for the benefit of popular readers.

Boston Medical and Surgical Journal.

BOSTON: THURSDAY, JANUARY 30, 1873.

We pointed out in the last number the financial success of the new system adopted by the Harvard Medical Department. The deficit was but a little over a thousand dollars, while the number of students was diminished nearly one-third. With anything like a return to the old numbers, which, when the advantages of the system become more apparent, is reasonably to be expected, the receipts will undoubtedly far exceed those of former years, thereby enabling the University to elaborate a system which has thus far been but imperfectly developed. It has been very generally supposed that the changes effected consisted simply in properly systematizing the course of instruction and in allotting to each of the three years their appropriate studies. This is but a small part of what has actually been accomplished. With a greatly increased standard of excellence required at the examinations, the opportunities for study have been much more extensively enlarged than the profession generally have any idea of, and Harvard College is rapidly perfecting to-day a course of study which promises soon in point of completeness to rival that of some of the best medical schools of Europe. The brief advertisement on the first page is to call the attention of those having completed their very short and hurried three years' course of study, or perhaps it may be of the still more hurried eighteen months of cramming at some of the New York or Philadelphia schools, to what can be done towards making themselves properly educated medical men. We beg them to pause and read it before they undertake to risk the lives of their fellow-men in their own unskilled hands. The standard of medical education has thus far been a disgrace to this country, and we trust that the work of reform so brilliantly inaugurated by Harvard will soon be taken up by other prominent medical schools. The remarks of President Eliot upon this subject are so excellent that we cannot help reproducing a large portion of his report.

"It is to be regretted, nevertheless, that the Medical School is not sufficiently endowed to make it practically independent of the number of its students. It would be difficult to overstate the importance of the effort which this single school is making, with no support except the approval of the profession, to improve the system of medical instruction in the United States. The ignorance and general incompetency of the average graduate of American Medical schools, at the time when he receives the degree which turns him loose upon the community, is something horrible to contemplate, considering the nature of a physician's functions and responsibilities. The early mistakes of

a young lawyer or a young minister are no great matter; not much is staked upon his skill and wisdom, and the community does not suffer irremediable losses and multiplied miseries, if novices in these professions are left by the schools in such a condition that they have to learn some pretty elementary lessons by practice. In the medical profession it is far otherwise. The mistakes of an ignorant or stupid young physician or surgeon mean poisoning, maiming and killing, or, at the best, they mean failure to save life and health which might have been saved, and to prevent suffering which might have been prevented. The effect upon the community of allowing the great mass of young physicians to learn the rudiments of their art by practising it, can only be compared to the effect upon an army in the field of officering it with men who have to learn the elements of the art of war by practice in the face of the enemy. This comparison does not exaggerate the evils of the prevailing system of medical instruction in this country. The Harvard Medical School has successfully begun a revolution in this system. A liberal endowment of the school would insure the complete success of the undertaking, and would encourage other schools to imitate the good example. There is no department of the University upon which money can be more worthily or more usefully bestowed; none in which endowment funds would have more immediate or more lasting effects to advance learning, and to relieve the sufferings and promote the happiness of mankind.

The students availed themselves of the new facilities of the school in the best spirit. The chemical laboratory was crowded, the large and excellent microscope room was in constant use, the practical instruction in anatomy was systematized and made very effective by the devoted labors of the demonstrator and the assistant demonstrator, and a new ardor and a keener attention were manifested in the lectures and recitations.

THE SMALLPOX EPIDEMIC in Boston and vicinity is manifesting a decided decadence. Many causes are contributing to this happy result; and whether we give most credit to the new Board of Health for it, or attribute the decline to the natural course of things, the fact is equally gratifying.

The Board of Health do not mean to leave any measures untried to promote the sanitary welfare of Boston, both in dealing with smallpox and in the general interests of the public health. One of the latest measures of the Board is the appointment of a corps of medical inspectors, who will aid very materially in executing sanitary measures. The immediate business of this corps is to superintend general vaccination and re-vaccination throughout the city, and to be responsible for its thorough, systematic and efficient performance.

The following gentlemen have accepted the position of medical inspector in this corps:—Drs R. M. INGALLS, A. E. McDONALD, E. N. WHITTIER, D. F. LINCOLN, W. H. H. HASTINGS, F. B. GREENOUGH, H. S. EVERETT, J. L. HALE, W. E. BOARDMAN, A. M. SUMNER, F. W. DRAPER, A. H. WILSON, F. W. GOSS, A. H. NICHOLS, E. T. WILLIAMS, W. P. BOLLES.

Correspondence.

"IN-FLESHED" TOE-NAIL.

MESSRS. EDITORS.—In the winter of 1851-52, Carl Castlehun, a German student of medicine who was then attending my lectures in the University of Michigan, described to me an operation which his father was in the habit of making for inverted toe-nail. The operation was the identical procedure given by Dr. Cotting for "*in-fleshed*" toe-nail in the last number of your JOURNAL. I have made the operation repeatedly, both in public clinics and in private practice, and can bear testimony to its value in an "*in-fleshed*" condition of the nail; but in an *inverted* condition of the edge of the nail it often fails. In such cases I have resorted to a complete extirpation of about one quarter of the nail and *matrix*, thus diminishing the width of the nail by the measure of the faulty portion. MOSES GUNN.

Chicago, Jan. 15, 1873.

RE-UNION OF PARTS.

MESSRS. EDITORS.—In the JOURNAL of the 9th inst., "Hay Cutter" asks: "Can parts completely dissevered be united?" Generally the answer would be, No. A surgeon, or some person of good common sense, and with presence of mind, must be on the spot at the time of the accident.

In the autumn of 1857, my son, then two and a half years of age, came in the horse barn as I was cutting hay for one of my horses, and the fog and gathering darkness was so thick and foul that I scarcely noticed his presence until a cry of pain indicated the injury. I lighted a match instantly and at once found the first or distal joint of the index finger and a portion of the second joint in the cut hay. Most of the first joint of the second or middle finger was hanging by a simple, narrow strip of skin.

I replaced the amputated members at once, wrapping them in my handkerchief until I could reach the house, some two hundred feet distant, when I dressed them with light splints and ordinary adhesive plaster. I used afterwards the *fir balsam*. They united; and with the exception of a slight angular deformity of the index finger, are perfect now.

My success in other cases has not been at all favorable. The circumstance or fact may be due to the time which had elapsed after the injury, before surgical aid could be obtained. B.

HAY FEVER.

MESSRS. EDITORS.—I was much interested in reading your extended notice of Dr. Morrill Wyman's book upon Autumnal Catarrh, a summer complaint known as hay fever or hay asthma, pointing out the only remedy or cure, a certain place or locality (for resort) in the White Mountains known as Franconia Notch or at the Glen House—not daring to go away from the spot more than six miles, if so the terrible malady is liable to return. Allow me to recommend to him and the profession at large a much larger scope of country for their patients, hundreds of miles square—the Rocky Mountain district known as Colorado, extending from crossing of the Union Pacific Railroad in the Black Hills to Mexico from north to south, and from east to west some three hundred miles, and that without the necessity of fleeing to the mountains if the patients prefer to live on the plains. There never has been a case indigenous to the climate, nor a case that came here for relief that was not cured as by miracle. No one need ever fear as August Asthma. Very respectfully, W. F. McCLELLAND, M.D.

Denver, Jan. 17th, 1873.

Medical Miscellany.

BOSTON DISPENSARY.—Dr. A. L. Haskins has been appointed Superintendent, vice Dr. S. A. Green resigned.

Dr. C. IRWIN FISHER has been appointed Port Physician of Boston, to succeed Dr. Durgin, who has become a member of the Board of Health.

WE are in receipt of the first number of the *Irish Hospital Gazette*, a bi-monthly journal. Its hospital and society reports are carefully prepared, and contain much interesting reading. A number of well-known names are to be found among the contributors to the first number, which is in every respect creditable to its originators, and we wish it success most heartily.

EXTRACTS IN POWDER.—It is sometimes very desirable to administer the solid extracts (say *extract of hyoscyamus*) in the form of a powder.

All such extracts may be reduced to fine powder by patiently rubbing them (say two or more hours) in a mortar with an equal quantity, by weight, of calcined magnesia.

Extract of gentian yields the slowest to this manipulation.

HOPS AS AN EXTERNAL APPLICATION.—If possessed of any virtue as an anodyne, and popularly hops have great reputation as such, the effect is best obtained by *steaming* a muslin bag full of them, on the side to be applied to the body, until quite soft and damp—not wet.

The ordinary method of wringing out in hot water wastes all the strength of the hops, and makes a nasty mess of it.

THE New York Medical Record says:—This city is the acknowledged medical centre of the United States. Over one thousand medical students are distributed in the three well-known medical colleges, viz., Bellevue Hospital Medical College, College of Physicians and Surgeons, and Medical Department of the University of the City of New York.

This statement is certainly true as regards the number of students. Ought not the "medical centre" of the country to offer the highest standard of medical education?—EDS.

A WITNESS NECESSARY IN THE ADMINISTERING OF ANÆSTHETICS.—A London correspondent of the *Dental Cosmos*, of Dec., 1872, mentions the recent charge of indecent assault by Caroline Pope, a servant, against Jas. T. Grant, dentist, at the Jersey (Channel Islands) police court. She states that "gas" was given to extract a tooth, and while she was under its influence he grossly outraged her. There was no evidence of a rape having been attempted, and many witnesses gave the dentist the highest moral character. He was admitted to bail in the sum of £250 for future trial. This case illustrates once again the extreme danger of administering anæsthetics to women without the presence of a witness.—*Med. Record*.

THE USE OF ETHER AS AN ANÆSTHETIC.—The Liverpool correspondent of the *British Medical Journal* writes:—The use of ether as an anæsthetic appears to be gaining ground in Liverpool. Although we have been singularly fortunate here in avoiding accidents from chloroform, the profession have no doubt been strongly impressed by the statements published in the *Journal* and elsewhere, and seem disposed to give the original anæsthetic a fair trial. We have lately seen ether administered in several operations, capital and minor, and in the lying-in room. In every case it has completely succeeded, its action being, in all respects, as satisfactory as that of chloroform, with the additional advantage of causing no tendency to sickness. The principal drawback appears to be the large quantity of ether required.

THE UNIVERSITY OF VIENNA AND DR. VON PETTENKOFER.—It has recently been decided to institute a new Chair of Hygiene in the University of Vienna; and Dr. Max von Pettenkofer, well known for his researches on the diffusion of cholera, and generally as one of the highest authorities in Germany on sanitary matters, has been invited to occupy the professorship. Until lately, there was a hope that he would accept the proposal. He has, however, declined to leave the present seat of his labors, Munich. This decision is said to be the result of certain concessions which have been made to him in Munich, and also of the direct intervention of His Majesty the King of Bavaria.—*Ibid.*

NOTES AND QUERIES.

THE WORKS OF BENJAMIN WATERHOUSE. *Messrs. Editors.*—I am very anxious to procure a copy of two pamphlets on the "Kinepox," written by Prof. Waterhouse and published in 1800 and 1810. I am also desirous to ascertain whether the papers of Dr. Waterhouse are in existence, and, if so, who is their custodian? *

We are not in possession of any information concerning the matters alluded to; if any of the readers of the JOURNAL can answer the inquiry, we shall be obliged to them if they will do so.—EDS.

WERE the cases of death from vaccination in the last number of the JOURNAL cases of first or re-vaccinations? POINT.

ERRATUM.—The report of thirteen cataract operations by Dr. Williams at the City Hospital, published in last week's JOURNAL, apparently under the head of "congenital cataract," should have been designated as "Extraction of Cataract by the New Method."

PAMPHLETS RECEIVED.—Half-Hour Recreations in Popular Science. Part 6. Unconscious Action of the Brain and Epidemic Delusions. By Dr. W. B. Carpenter, F.R.S., &c. Boston. 1873. Pp. 191 to 254.—Transactions of the Wisconsin Academy of Sciences, Arts and Letters, 1870-72. Madison, Wis. 1872. Pp. 200.—Letter from the Secretary of War, communicating, in obedience to law, information in relation to Quarantine on the Southern and Gulf Coasts. Pp. 117.—The Natural Cure of Disease. Synopsis of a Lecture delivered before an Association of Physicians of Brooklyn, N. Y. By Prof. Sam'l G. Armor, M.D., of the Long Island College Hospital. Pp. 8.

MARRIED.—In Haverhill, 16th inst., Oscar D. Cheney, M.D., to Miss Sarah S. Hunking, both of Haverhill.

DIED.—In this city, 27th inst., Francis A. Willard, M.D., 64.—In Natick, Jan. 9th, Geo. C. Lincoln, M.D., aged 51 years.

MORTALITY IN MASSACHUSETTS.—Deaths in fourteen Cities and Towns for the week ending January 18, 1873.

Boston, 178—Charlestown, 14—Worcester, 23—Milford, 5—Chelsea, 9—Cambridge, 12—Salem, 9—Springfield, 2—Lynn, 13—Gloucester, 8—Fitchburg, 3—Newburyport, 4—Somerville, 3—Haverhill, 5. Total, 288.

Prevalent Diseases.—Smallpox, 60—consumption, 48—pneumonia, 24—scarlet fever, 17. The deaths from smallpox were as follows:—In Boston forty-five, Charlestown seven, Gloucester three, Worcester two, Cambridge two and Salem one. Of the deaths from scarlet fever ten were in Boston, three in Worcester and three in Cambridge.

GEORGE DÉRBY, M.D.,
Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, January 25th, 1873. Males, 81; females, 72. Accident, 1—apoplexy, 4—anæmia, 1—burned, 1—bronchitis, 5—disease of brain, 3—cerebro-spinal meningitis, 1—cancer, 2—consumption, 20—convulsions, 3—croup, 3—debility, 1—diarrhea, 1—dropsy, 1—erysipelas, 1—frost-bite, 1—scarlet fever, 11—typhoid fever, 8—gangrene, 1—gastritis, 1—disease of heart, 7—hernia, 1—infantile, 3—disease of kidneys, 2—congestion of the lungs, 2—inflammation of the lungs, 10—marasmus, 1—old age, 3—paralysis, 3—rheumatism, 1—puerperal disease, 2—pyæmia, 1—pelvic inflammation, 1—scrofula, 1—smallpox, 35—teething, 2—unknown, 7.

Under 5 years of age, 45—between 5 and 20 years, 18—between 20 and 40 years, 46—between 40 and 60 years, 25—over 60 years, 19. Born in the United States, 100—Ireland, 35—other places, 18.